WHAT IS CLAIMED IS:

1. A purified nucleic acid molecule having a nucleotide sequence encoding a steroidogenic acute regulatory protein, the protein having an amino acid sequence having between 80% and 99% identity to the sequence of SEQ ID NO: 2.

2. A purified nucleic acid molecule complementary to the nucleic acid molecule of claim 1.

3. The purified nucleic acid molecule of claim 1 wherein the steroidogenic acute regulatory protein has the amino acid sequence of SEQ ID NO: 2.

4. The purified nucleic acid molecule of claim 1 further defined as having a nucleotide sequence with about 85% to about 99% identity to the nucleic acid sequence of SEQ ID NO:1.

5. The purified nucleic acid molecule of claim 1 further defined as a DNA molecule and being substantially free of DNA molecules not encoding a steroidogenic acute regulatory protein.

6. A recombinant vector comprising the purified nucleic acid molecule of claim 1.

7. The recombinant vector of claim 6, further defined as an expression vector comprising a promoter operatively linked to said nucleic acid molecule.

8. The recombinant vector of claim 6, further defined as a pCMV, adenoviral, retroviral, pUC, SV40, yeast plasmid, *Baculovirus* or *Vaccinia* virus vector.

9. A recombinant host cell comprising the recombinant vector of claim 6.

10. The recombinant host cell of claim 9, further defined as a Leydig cell, a COS cell, an adrenalcortical cell, an ovarian granulosa cell, *Saccharomyces cerevisiae*, or *Escherichia coli* cell.

11. A purified nucleic acid molecule having a nucleotide sequence that encodes an amino acid sequence extending from amino acid methionine at position 48 through amino acid cysteine at position 284 essentially as set forth in SEQ ID NO:2.

12. A purified nucleic acid molecule comprising a sequence that corresponds to, or is capable of hybridizing to the nucleic acid sequence of SEQ ID NO:1 under conditions standard for hybridization fidelity and stability or degenerate variants thereof.

13. A purified nucleic acid molecule having a nucleotide sequence of SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, or SEQ ID NO:14.

14. A purified steroidogenic acute regulatory protein having an amino acid sequence as set forth in SEQ ID NO:2.

15. A purified steroidogenic acute regulatory protein having an amino acid sequence extending from amino acid methionine at position 48 through amino acid cysteine at position 284 in SEQ ID NO:2.

16. The purified steroidogenic acute regulatory protein of claim 14 defined further as being phosphorylated.

17. A purified polypeptide having an amino acid sequence in accordance with SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, or SEQ ID NO:8.

18. A method of preparing a steroidogenic acute regulatory protein encoded by the purified nucleic acid molecule of claim 1, comprising:

preparing a recombinant host bearing the nucleic acid molecule of claim 1, the host being capable of expressing the protein;

culturing the recombinant host to produce steroidogenic acute regulatory protein; and

collecting the steroidogenic acute regulatory protein having an amino acid sequence with about 80% to about 99% identity to the amino acid sequence.

19. The method of claim 18 wherein the recombinant host is a COS cell.

20. A purified nucleic acid molecule having a nucleotide sequence encoding a steroidogenic acute regulatory protein, the protein having about 80% to about 99% amino acid sequence identity to SEQ ID NO:2, said nucleic acid molecule obtained by a process of:

preparing oligonucleotides that encodes a StAR peptide having about 80% to about 99% amino acid sequence homology to SEQ ID NO:2 ;

screening an animal cell DNA library with said oligonucleotides; and

obtaining the purified nucleic acid molecule having a nucleotide sequence encoding a steroidogenic acute regulatory protein, the protein having an amino acid sequence with about 80% to about 99% amino acid sequence identity to SEQ ID NO:2.

21. An antibody having binding specificity for the steroidogenic acute regulatory protein encoded by the nucleic acid molecule of claim 1.

22. The antibody of claim 21 defined further as having binding specificity for amino acids 1-26, 10-26, 36-47, or 88-98 of SEQ ID NO:2.

23. The antibody of claim 21 further defined as a polyclonal antibody.

24. An anti-StAR antibody, said antibody prepared by a process of:

immunizing an animal with an immunogen comprising a peptide having an amino acid sequence as defined in SEQ ID NO:8 to provide an immunized animal that produces antibody capable of binding with a StAR peptide having an amino acid sequence as defined in SEQ ID NO:2;

obtaining sera from said immunized animal to provide immune sera; and

collecting anti-StAR antibodies from said immune sera.

25. A hybridoma cell line that produces an antibody having binding specificity for the steroidogenic acute regulatory protein encoded by the nucleic acid molecule of claim 1.

26. The hybridoma cell line of claim 25 prepared by a process of:

immunizing an animal with a steroidogenic acute regulatory protein having an amino acid sequence of SEQ ID NO:8 or having an amino acid sequence with 80% to 95% homology to SEQ ID NO:2;

collecting anti-steroidogenic acute regulatory protein antibody producing cells from the immunized animal; and

fusing the antibody producing cells with a neoplastic animal cell line to obtain an hybridoma cell line.

27. An immunoassay for the detection of a steroidogenic acute regulatory protein in a biological sample, comprising:

preparing an antibody as defined in claim 24;

incubating the antibody with the biological sample for a sufficient time to permit binding between antibody and steroidogenic acute regulatory protein present in said biological sample to form an incubate; and

determining the presence of bound antibody by contacting the incubate with a detectably labelled antibody specific for the anti-steroidogenic acute regulatory protein antibody of claim 24,

wherein the presence of anti-steroidogenic acute regulatory protein antibody in the biological sample is detectable as a measure of the detectably labelled antibody from the biological sample.

28. The immunoassay of claim 27 wherein the detectably labelled antibody is an enzyme-linked antibody, a fluorescent tagged antibody or a radiolabeled antibody.

29. A method for screening for a chromosomal genetic lesion comprising:

preparing a nucleic acid probe having a nucleotide sequence having about 80% to about 99% homology to SEQ ID NO:1; and

contacting a chromosomal sample with the probe to allow hybridization of the sample to the probe under conditions standard for hybridization fidelity and stability;

wherein lack of specific hybridization of the probe and the chromosomal sample indicates a chromosomal genetic lesion.

30. The method of claim 29 wherein the genetic lesion is a deletion, a rearrangement, an insertion, a transition, a transversion, a frameshift, a missense or a nonsense mutation.

31. The method of claim 29 wherein the genetic lesion correlates with the presence of lipoid congenital adrenal hyperplasia.

32. The method of claim 29 wherein the chromosomal sample is from adrenal tissue, gonadal tissue, or blood.

33. A screening method for lipoid congenital adrenal hyperplasia comprising

obtaining a chromosomal sample to provide a test sample;

preparing a nucleic acid probe having a nucleotide sequence essentially as set forth in SEQ ID NO:1 or a sequence with 80% to 99% identity thereto;

contacting the test sample with the nucleic acid probe under hybridization conditions allowing for detection of a mismatch in a hybridizing molecule as a screening method for lipoid congenital adrenal hyperplasia.

34. A method for stimulating cholesterol transport comprising administering a pharmacologically effective amount of steroidogenic acute regulatory protein having an amino acid sequence with 80% to 99% identity to the sequence of SEQ ID NO:2.

35. A method for increasing production of progesterone comprising administering a pharmacologically effective amount of steroidogenic acute regulatory protein having an amino acid sequence with 80% to 99% homology to SEQ ID NO:2.

36. A method for increasing steroidogenesis comprising administering a pharmacologically effective amount of steroidogenic acute regulatory protein having an amino acid sequence with 80% to 99% identity to SEQ ID NO:2.